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(54) **DEVICE FOR DIGITAL COMMUNICATION THROUGH CAPACITIVE COUPLING**

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(52) **U.S. Cl.**

CPC ***G06F 3/044*** (2013.01); ***G06F 3/03545*** (2013.01); ***G06F 3/045*** (2013.01); ***G06F 3/0416*** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

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(57) **ABSTRACT**

A computing device configured to communicate with an input device. The computing device includes a processor, a touch interface, such as a touch screen, and a receiving unit. The touch interface is configured to detect an input signal corresponding to an object approaching or contacting a surface. The receiving unit is configured to receive, through the touch interface, at least one input signal from the input device, and the receiving unit amplifies the at least one input signal creating at least one amplified input signal. Additionally, at least one of the processor or the receiving unit analyzes the at least one amplified input signal and creates at least one output digital signal corresponding to the at least one input signal.

23 Claims, 11 Drawing Sheets